

What is claimed is:

1. A weld checking apparatus for a laser welding machine having a welding head triggering laser beam to a 5 welding object, the weld checking apparatus comprising:

an auxiliary flash intercepting plate removably mounted on a flexible arm installed on the welding head to intercept a flash generated during a laser welding process;

10 a weld-checking/eye-protecting glass assembly disposed on a center portion of the auxiliary flash intercepting plate to display a weld portion in an enlarged scale during the welding process while intercepting the flash by being opened and closed in synchronization with a laser beam trigger speed of the welding head; and

15 open/close control means for generating a trigger pulse and an open/close pulse synchronized with the trigger pulse and for providing the open/close pulse to the weld-checking/eye-protecting glass through the electric cable 50 to open and close the weld-checking/eye-protecting glass assembly.

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2. The weld checking apparatus of claim 1, wherein the weld-checking/eye-protecting glass assembly comprises:

upper and lower protecting glasses coupled to and projected upward and downward from top and bottom surfaces of 25 the auxiliary flash intercepting plate, respectively;

a magnifying glass 43 coupled on the lower protecting glass to magnifying a weld portion;

5 a filter lens disposed above the magnifying glass and coated with a reflecting member to intercept a harmful wave that is generated during the welding process, by reflecting the harmful wave; and

10 an LCD shutter disposed between the upper protecting glass and the filter lens to display the weld portion in real time while being closed and opened by the open/close pulse generated from the open/close control means.

3. The weld checking apparatus of claim 1, wherein the open/close control means comprises:

15 a trigger switch for generating a welding start signal; an electric power controller for generating operation electric power in response to the welding start signal;

a micro processor for controlling an overall system operation using a voltage supplied from the electric power controller;

20 a pulse signal generator controlled by the microprocessor to generate a pulse;

an oscillating lamp power part, oscillated by the electric power and the pulse respectively supplied from the electric power controller and the pulse signal generator, for 25 generating a trigger pulse for triggering a laser beam and

outputting the triggering pulse through an output terminal;
and

5 a shutter synchronization-driving power part 76 for generating an open/close pulse signal synchronized with the trigger pulse generated by the oscillating lamp power part and providing the open/close pulse signal to the LCD shutter of the weld-checking/eye-protecting glass assembly.

10 4. The weld checking apparatus of claim 1, wherein the closing time of the open/close signal is set to be longer than a width of the trigger pulse.

15 5. The weld checking apparatus of claim 4, when the width of the trigger pulse is in a range of 0.5-20 ms, the closing time is set to 30 ms.

20 6. The weld checking apparatus of claim 1 further comprising a light installed on a bottom of the auxiliary flash intercepting plate to illuminate light to the weld portion during welding and weld-checking.